REMARKS

Entry of the foregoing and reexamination and reconsideration of the subject application, as amended, pursuant to and consistent with 37 C.F.R. § 112, are respectfully requested in light of the following remarks.

Claims 10-25 remain present in this application. Claims 1-9 were previously cancelled.

Claim 10 has been amended to delete "containing" and recite "having".

No new matter has been introduced as a result of the foregoing amendment.

The Examiner indicated that the makeup of the composition used in the comparative example did not provide the makeup of the composition and therefore it was impossible to ascertain what one of ordinary skill in the art might attribute to the difference in performance.

The specification indicates that the composition of the comparative gel was Rhodorsil® RT Gel 8260. (page 21, lines 4-5) Rhodorsil® RT Gel 8260 is a commercially available two part product which has the following composition by weight:

Component	Part A	Part B
POS (I) SiH	0	1.5
POS (II) SiVi	48	48.5
POS (III) mono-SiVi	0	0
POS (IV) PDMS (non-functionalized)	50	50
Catalyst	Catalytic amount	-

The gel is obtained after the two parts are mixed in a 50/50 ratio and crosslinked.

35 U.S.C. §103(a) Obviousness Rejection

Claims 10-25 have been rejected under 35 U.S.C. §103(a) as unpatentable over Ozai et al. (U.S. Patent Application Publication No. 2003/0220448).

Applicant respectfully submits that Claims 10-25 are not obvious over Ozai and these claims are allowable.

To establish a *prima facie* case of obviousness, three basic criteria must be met. (MPEP 2143) First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Ozai is directed to silicone compositions which cure into flame retardant parts and are suitable for the protection of integrated circuits (IC's). The composition of Ozai is incorporated with other materials to form products which can be cast [0016] or formed into a silicone rubber or gel [0032]. There is nothing in Ozai that teaches or suggests the use of the composition of Ozai in forming an adhesive, let alone an adhesive gel, as required by the instant claims.

The Office Action indicates that it is contemplated in [0017] that an organopolysiloxane bearing only a single alkenyl group may be incorporated to adjust the hardness of the elastomer product. Paragraph [0017] states:

> [0017] It is acceptable to add an organopolysiloxane containing only one alkenyl group in a molecule or an organopolysiloxane free of an alkenyl group to the organopolysiloxane as component (A) to adjust the hardness.

When read in context with the teachings of the specification in its entirety, the hardness that is being adjusted is the hardness of cast or silicone rubber or gel products formed. Silicone rubbers or gels are distinct products from the compositions of the instant application which are, or upon crosslinking, form gel adhesives.

The Office Action indicates that the organopolysiloxane bearing only a single alkenyl group in Ozai corresponds to component (C), which is at least one monofunctional polyorganosiloxane POS (III) which is essentially linear, having less than 2 mol% of siloxyl unit T = $RSiO_{3/2}$, and which comprises, per molecule, one alkenyl radical (X) having from 2 to 6 carbon atoms directly bonded to a silicon atom, where the nature of the endgroup and backbone siloxyl units are further defined.

There is nothing in Ozai that would lead one of ordinary skill in the art to select component (C), as recited in the claims, from the vast number of compounds encompassed by the limited disclosure in Ozai which includes organopolysiloxanes free of an alkenyl group. In addition, there is nothing in Ozai which indicates the amount of this component that should be used. There is nothing in Ozai that indicates that this compound should be essentially linear and have less than 2 mol% of siloxyl unit T = $RSiO_{3/2}$. One of ordinary skill in the art, upon reading the very general disclosure in Ozai, would not have selected component (C), POS (III) from the vast number of compounds encompassed by the general disclosure in Ozai.

Component (B) of Ozai corresponds to component (A) of the instant invention. Ozai teaches:

> [0018] Component (B) is an organohydrogenpolysiloxane which reacts with component (A) and serves as a crosslinking agent. Its molecular structure is not critical, and any of straight, branched, cyclic and three-dimensional network structure (dendritic) manufactured in the art may be used. The organohydrogenpolysiloxane should contain at least two, preferably at least three hydrogen atoms directly bonded to silicon atoms (i.e., hydrosilyl groups represented by SiH) in a molecule. It usually has about 3 to about 500, preferably about 3 to about 200, more preferably about 3 to about 100 SiH groups. The organohydrogenpolysiloxane used herein is typically of the following average compositional formula (2).
>
> $$R^2_dH_cSiO_{(4-d-c)/2} \quad (2)$$

Component (A) of the instant invention is at least one polyorganosiloxane POS (I) having:

a) endgroup siloxyl units of type M = $(R)_2(H)SiO_{1/2}$ in which the R radicals, which may be identical or different, are each an optionally substituted linear or branched C_1-C_6 alkyl radical and/or a substituted or unsubstituted aryl radical, and

b) identical or different siloxyl units of type D = $(R^1)_p(H)_qSiO_{2/2}$ in which the R^1 radicals have the same definition as R and p = 1 or 2, q = 0 or 1 and p + q = 2;

with the proviso that the polyorganosiloxane POS (I) comprises at least two SiH radicals per molecule.

Given that Ozai teaches that their component (B) is an organohydrogenpolysiloxane which reacts with component (A) and serves as a crosslinking agent and its molecular structure is not critical, there is nothing in Ozai that would have led one of ordinary skill in the art to select the components with the specific structures recited in the claims from the vast group of compounds encompassed by the teaching of Ozai.

Component A of Ozai corresponds to component (B) of the instant invention. Component (A) of Ozai is an organopolysiloxane containing at least two alkenyl groups in the molecule and having the general formula: $R_aR^1{}_bSiO_{(4-a-b)/2}$, where a is a positive number of 0.0001 to 0.2 and b is a positive number of 1.7 to 2.2. [0014] Component (B) of the instant invention is at least one polyorganosiloxane POS (II) having:

a) endgroup siloxyl units of type $M = (X)_s(R^2)_tSiO_{1/2}$ in which the R^2 radicals have the same definition as R, the X radicals are alkenyl radicals having from 2 to 6 carbon atoms, s = 0 or 1, t = 2 or 3 and s + t = 3; and

b) identical or different siloxyl units of type $D = (X)_u(R^3)_vSiO_{2/2}$ in which the R^3 radicals have the same definition as R, the X radicals are alkenyl radicals having from 2 to 6 carbon atoms, u = 0 or 1, v = 1 or 2 and u + v = 2,

with the proviso that the polyorganosiloxane POS (II) comprises at least two X radicals per molecule.

Component A of Ozai encompasses a large number of compounds and there is nothing in Ozai that would lead one of ordinary skill in the art to select a compound of component B, as recited in the instant claims, from the numerous compounds encompassed by components A of Ozai.

A comparison of the formulas of component A of Ozai and POS (II) of claim 10 is shown below.

Component A of Ozai

$R_aR^1{}_bSiO_{(4-a-b)/2}$, where a is a positive number of 0.0001 to 0.2 and b is a positive number of 1.7 to 2.2.

POS (II) of claim 10

End units $(X)_s(R^2)_tSiO_{1/2}$ in which s = 0 or 1, t = 2 or 3 and s + t = 3

Chain units $(X)_u(R^3)_vSiO_{2/2}$ in which u = 0 or 1, v = 1 or 2 and u + v = 2.

One of ordinary skill in the art would recognize that Ozai teaches that subscript a cannot be 0 because a is a positive number of 0.0001 to 0.2. The subscripts s and u in the instant claims correspond to the subscript a in Ozai. There is nothing in Ozai that indicates that the subscripts s and u in the claims of the instant application must either 0 or 1. The disclosure that a is a positive number of 0.0001 to 0.2 teaches away from the claimed invention. "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out it the reference, or would be led in a direction divergent from the path that was taken by the applicant." *In re Gurley*, 27 F3d 551, 553, 31 USPQ2d 1130, 1131. (Fed. Cir. 1994) One of ordinary skill in the art upon reading Ozai would not be motivated to change component (A) of Ozai, which requires a chemical formula in which a is a positive number of 0.0001 to 0.2, to component (B) of the instant invention, which requires s and u to have values of 0 or 1, which are outside of the range taught by Ozai.

In addition, Ozai teaches that compounds of component (A) have the general formula $R_aR^1{}_bSiO_{(4-a-b)/2}$, where b is a positive number of 1.7 to 2.2. The subscripts t and v in the instant claims correspond to the subscript b in Ozai. The subscripts in the claims of the instant application must be an integer. There is nothing in Ozai that

teaches or suggest use of compounds with the formula recited in the instant claims where the subscripts have the claimed integer values.

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. There is no suggestion or motivation in Ozai or in the knowledge generally available to one of ordinary skill in the art to modify Ozai to individually select the claimed components (A), (B) and (C) from the general, broad disclosures of the corresponding components (B), (A) and (C) of Ozai. As shown above, for each of these components, Ozai provides very broad disclosures which encompass a very large number of compounds for each of these components. In addition, there is no suggestion or motivation in Ozai that the amount of the constituents (A), (B), (C) and (E) is such that the molar ratio r of the hydrogen atoms bonded to silicon to the alkenyl radicals (X) bonded to silicon ranges from 0.2:1 to 5:1, as required by the instant claims. Nor is there any suggestion or motivation to change the composition from one which can produce a silicone rubber or gel, as taught by Ozai, to a composition which is crosslinkable to produce an adhesive gel, as required by the claims of the instant application. There is also no suggestion or motivation to change the composition of Ozai to produce a composition which is cross linkable to form a gel adhesive with increased viscous modulus and elastic modulus, as found in the composition of the instant application. Therefore there is no motivation or suggestion in the cited prior art to modify the invention of Ozai to obtain Applicant's invention.

To establish a *prima facie* case of obviousness, there must be a reasonable expectation of success. There is no reasonable expectation of success in obtaining the claimed method based on the teachings in Ozai. Ozai teaches compositions with flame retardant properties that are use to make silicone rubber or gel. One of ordinary skill in the art would not have had a reasonable expectation in developing a composition that is cross linkable to form a gel adhesive using the components described in Ozai. One of ordinary skill in the art would not have had a reasonable expectation that the could select the claimed components (A), (B) and (C) from the general, broad disclosures of the corresponding components (B), (A) and (C) of Ozai to obtain a composition that is cross linkable to form a gel adhesive. In addition, such a person would not have had a reasonable expectation of success in selecting the amount of the constituents (A), (B), (C) and (E) such that the molar ratio $\underline{r}$ of the hydrogen atoms bonded to silicon to the alkenyl radicals (X) bonded to silicon ranges from 0.2:1 to 5:1, as required by the instant claims. Such a person would also not have had a reasonable expectation of success in obtaining a composition which is cross linkable to form a gel adhesive with increased viscous modulus and elastic modulus, as found in the composition of the instant application. Therefore there is no reasonable expectation of success in producing the applicants' invention based on the teachings in the cited prior art.

To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Ozai does not teach or suggest that the amount of the constituents (A), (B), (C) and (E), is such that the molar ratio $\underline{r}$ of the hydrogen atoms bonded to silicon to the alkenyl radicals (X) bonded to silicon ranges from 0.2:1 to 5:1, as required by the instant

claims. Ozai also does not teach or suggest a composition which is cross linkable to produce an adhesive gel, as required by the claims of the instant application. There is also no suggestion or motivation to change the composition of Ozai to produce a composition which is cross linkable to produce a gel adhesive with increased viscous modulus and elastic modulus, as found in the composition of the instant application. Ozai does not teach or suggest the specific components (A), (B) and (C) required by the instant claims from the general, broad disclosures of the corresponding components in Ozai, which encompasses a vary large number of compounds for each of these components. The selection of the specific components required by the current claims from the corresponding components in Ozai would require undue experimentation because of the large numbers of compounds encompassed by each of the components in Ozai, coupled with the requirement that the amount of the constituents (A), (B), (C) and (E) is such that the molar ratio r of the hydrogen atoms bonded to silicon to the alkenyl radicals (X) bonded to silicon ranges from 0.2:1 to 5:1, as required by the instant claims. Therefore the cited prior art does not teach or suggest all of the limitations of the instant claims.

Therefore, in consideration of the foregoing, Applicants respectfully submit that claims 10-25 are not obvious over Ozai. Applicants therefore request that this rejection be withdrawn.

In view of the foregoing, it is believed that entry of the proposed amendments should be allowed and that the record rejections cannot be maintained against the proposed claims once entered into this application. Further, favorable action in the

form of a Notice of Allowance is believed to be next in order and is earnestly solicited.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: November 3, 2010 By: Gary D. Mangels

Gary D. Mangels, Ph.D.
Registration No. 55424

Customer No. 21839
703 836 6620